



**2003 AFCEE Technology Transfer Workshop**

San Antonio, Texas

*Promoting Readiness through Environmental Stewardship*

# **Program Effective LTM**

## **Progressing to the Next Level**

**Michael Raabe  
Eielson AFB, AK  
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# CHANGING STRIDES

- **Conventional MW Drawbacks In Sub-Arctic**

- **Frost Heaving**

- Questionable Well Integrity



- **Damage Control**

- Snow Removal Equipment Damage
    - Military / Recreational / Private Vehicle Damage

- **Maintenance Requirements**

- Damage Repair
    - MW's Act as Preferential Pathways or "Collection Points"





# CHANGING STRIDES

- **Conventional MW Drawbacks (Cont)**
  - **Security**
    - Unauthorized Well Access / Vandalism
  - **Safety Concerns / Liabilities**
    - “Obstacles” to ATV / Private Vehicle Traffic
    - Aircraft Runway Clear Zone Obstruction
- **Adverse Public Perception**
  - MW = Serious Contaminant Plume Problem
- **Single Point Snapshot**
  - Limited Site Monitoring Options





# Push Point Advantages

- **Fewer Well Security Concerns**
  - No Well, Nothing to Tamper With
- **Sampling Diversity**
  - Soil Vapor – Field GC Analysis an Option
  - Groundwater
  - Latitude to Vary Sample Location
- **Obstruction Free Site**
  - Points Removed Following Sampling
  - Safety Hazard Removed for Area Traffic







# Push Point Advantages

- **Eliminates Maintenance**
  - **No Point, Therefore No Maintenance**
- **Following Point Removal, No Liability**





# COST COMPARISON

- **Conventional MW vs Push Point**
  - **Roughly Comparable In Cost**
    - Volume Savings
  - **Savings realized in reduced maintenance / manpower**





# **PROGRESSING TO THE NEXT LEVEL**



# ***EVENT DRIVEN MONITORING?***

- **Pushing the Envelope?**
  - **Probably, But Why Not?**

## **QUESTIONS**

- **Does LTM Enhance Attenuation?**
- **What Added Value is Frequent LTM to The Program?**
- **Does Reduced Monitoring = Increased Risk?**
- **When Would We Monitor?**
  - **Changing Site Conditions**
  - **Proposed Construction Activities**
  - **Proposed Change to Land Use Scenario**
  - **Data Gathering For Site Closure**





# ***EVENT DRIVEN MONITORING?***

## **Questions (Cont)**

- **Which Sites Qualify?**
  - **Subtitle C Landfills? / POL Sites? / TCE Sites?**
- **Site Qualifiers?**
  - **Isolated Exposure Pathway(s)**
  - **Contaminant Levels / Source Term ID**
  - **Demonstrated Stable/Attenuating Plume**
  - **Plume Location**
  - **Controlled Site Access**
- **Reasonable Alternative to LTM?**
  - **Efficient Management of Institutional Controls?**



# ***EVENT DRIVEN MONITORING?***

- **Advantages**
  - **Pushes Monitoring Costs Largely Into Projects**
    - **Re-directs Program Funds From Monitoring to Cleanup**
- **Pre-Siting Evaluation**
  - **Identifies Environmental Impacts to Construction Costs**
    - **Indoor Air Vapor Intrusion Potential**
    - **Engineering Controls For Air Quality Management**
    - **Contaminant Removal / Disposal Costs**
    - **Minimize Contract Change Orders**



# ***HOW DO WE GET THERE?***

- **AFCEE RPO Support**
  - **Draft a Decision Tree**
    - **Establish a Good Starting Point / Direction**
- **Regulator Involvement – *IMPORTANT!!***
  - **Seek EPA / State Regulator Input From Inception**
    - **Address Regulatory Concerns Up Front**
    - **Show What's in it For Them**
- **Institutional Controls Management Plan**
  - **Effective Contaminated Site Management**
    - **Geo-Base Management / Base General Plan**
    - **Design Review Involvement / Internal On-Site Inspections**



# ***HOW DO WE GET THERE?***

- **Community RAB Support**
- ***Note of Caution:***
  - **Don't Brag About Savings**
    - **Regulators *Don't* Like To Hear This**





# **GOAL?**

- **Drive Monitoring Costs Largely Into Project Costs**
  - **Environmental a Part of Initial Construction Budget Process**
- **Minimize Change Orders to Construction Contracts**
  - **Identify Environmental Cost Impacts Prior to Siting Approval**
- **Direct More Program \$\$'s to Cleanup**

**IS IT DOABLE??**

**Yes, We're Working On It**



# Questions ??